

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – not performed/required on any sample in data set. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For samples 02-05, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For samples 01 and 06, all results reported from diluted runs (20x), with RLs raised. RLs for all ND results below PALs (1.1 mg/kg for PCBs). |

Data Validation Performed and Documented by:

Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1808745

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|--------|----------|------------------------|-----------------|-------|------------------------------|-------------|
| None | None | No data qualifications | | | | |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1808807**; Report Issued **October 24, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|------------------|----------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-560-082918 3ft | 8/29/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808807-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-565-082918 3ft | 8/29/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808807-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-570-082918 3ft | 8/29/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808807-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-575-082918 3ft | 8/29/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808807-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-580-082918 3ft | 8/29/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808807-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-585-082918 3ft | 8/29/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808807-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-590-082918 3ft | 8/29/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808807-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-595-082918 3ft | 8/29/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808807-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-600-082918 3ft | 8/29/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808807-09 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries – Surrogate recoveries for sample 03 (secondary analytical run only) diluted below MRL. (No qualification indicated). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) – Dual column RPD > 40% for sample 02 diluted run, for Aroclor 1260. As result reported from undiluted run, and RPD was acceptable, no qualification indicated. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – not performed/required on any sample in data set. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For samples 01-04, 06, 08, and 09, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For sample 03, all results reported from diluted run (20x), with RLs raised. RLs for all ND results below PALs (1.1 mg/kg for PCBs). |

Data Validation Performed and Documented by:



Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1808807

| Sample | Analysis | Compound | Original Result | Units | Data Validation- Based Result | Reason Code |
|--------|----------|------------------------|-----------------|-------|----------------------------------|-------------|
| None | None | No data qualifications | | | | |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1808849**; Report Issued **October 24, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-----------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| SW-373-083018 0-3ft | 8/30/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808849-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-378-083018 0-3ft | 8/30/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808849-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-378-083018-1 0-3ft | 8/30/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808849-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-383-083018 0-3ft | 8/30/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808849-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-388-083018 0-3ft | 8/30/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808849-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-630-083018 3ft | 8/30/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808849-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-433-083018 0-3ft | 8/30/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808849-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-438-083018 0-3ft | 8/30/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808849-08 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Surrogate recoveries – DCB surrogate recovery sample 01, primary column, diluted run > QC limit; Aroclor 1254 result considered an estimate (J qualified). DCB surrogate recovery sample 05, primary column, undiluted run > QC limit; as the only detection from the undiluted run was reported from confirmatory column, no QC issue is indicated and no data qualification necessary. Surrogate recoveries for sample 04 (secondary analytical run only) and sample 08 (primary analytical run) were diluted below MRL. (No qualification indicated). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) – MS/MSD recoveries all above QC limit. Results reported as outside of control limits due to coelution, and results reported above the quantitation limit. Given this issue and the other (acceptable) QC results, including the field duplicate, LCS, and dual column results, no qualification was given to the data based on the MS/MSD recoveries. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – <i>not performed/required on any sample in data set.</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – <i>For samples 01-06, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For sample 08, all results reported from diluted run (20x), with RLs raised. RLs for all ND results below PALs (1.1 mg/kg for PCBs).</i> |

Data Validation Performed and Documented by:



Veronica J. Champagne, Data Validator
 AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1808849

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|---------------------|----------|--------------|-----------------|-------|------------------------------|-------------|
| SW-373-083018 0-3ft | PCBs | Aroclor 1254 | 1.3 | mg/kg | 1.3 J | SA |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1808883**; Report Issued **October 24, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-----------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-770-083118 3FT | 8/31/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808883-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-525-083118 0-3FT | 8/31/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808883-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-775-083118 3FT | 8/31/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808883-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-780-083118 3FT | 8/31/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808883-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-785-083118 3FT | 8/31/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808883-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-530-083118 0-3FT | 8/31/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808883-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-535-083118 0-3FT | 8/31/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808883-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-535-083118-1 0-3FT | 8/31/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808883-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-540-083118 0-3FT | 8/31/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808883-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-680-083118 0-2FT | 8/31/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808883-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-681-083118 0-2FT | 8/31/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1808883-11 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries – Surrogate recoveries for samples 07 and 08 (secondary analytical runs only) and sample 05 (primary analytical run) were diluted below MRL. (No qualification indicated). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) – MS/MSD recoveries for Aroclor 1016 above QC limit due to co-elution. MS/MSD recoveries for Aroclor 1260 below QC limit; as native sample concentrations were greater than 4x spike, MS/MSD results are not considered usable, per validation protocol. No qualifications made to data. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Field duplicate RPDs (if collected) – RPD exceeds QC limit (50%) for Aroclor 1260; Aroclor 1260 results for samples 07/08 are considered estimates (J qualified). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) – RPD exceeded QC limit (40%) for sample 04 Aroclor 1242 result; result for sample 04 Aroclor 1242 is considered an estimate (J qualified). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – not performed/required on any sample in data set. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For samples 01, 02, 04, 06-11, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For sample 05, all results reported from diluted run (20x), with RLs raised. RLs for all ND results below PALs (1.1 mg/kg for PCBs). |

Data Validation Performed and Documented by:



Veronica J. Champagne, Data Validator
 AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1808883

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|-----------------------|----------|--------------|-----------------|-------|------------------------------|-------------|
| B-780-083118 3FT | PCBs | Aroclor 1242 | 0.4 | mg/kg | 0.4 J | DC |
| SW-535-083118 0-3FT | PCBs | Aroclor 1260 | 3.6 | mg/kg | 3.6 J | DU |
| SW-535-083118-1 0-3FT | PCBs | Aroclor 1260 | 6.3 | mg/kg | 6.3 J | DU |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809025**; Report Issued **October 24, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|--------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-145-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-146-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-147-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-148-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-149-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-150-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-151-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-152-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-153-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-154-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-155-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-156-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-157-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-158-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-14 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-159-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-15 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-160-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-16 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-150-1-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-17 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-160-1-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809025-18 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|-----------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Surrogate recoveries – Surrogates for samples 02, 03, 06, 07, 08, 10, 11, and 17 (secondary analytical runs only) and samples 04, 05, and 12 (primary runs) diluted below MRL. (No qualification indicated). For sample 01, undiluted run, DCB surrogate for primary column above QC limit, and surrogates diluted below MRL in secondary analytical run; Aroclor 1242 and Aroclor 1254 results considered estimates (J qualified). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) – MS/MSD recoveries and RPDs for sample 16 within limits. MS/MSD recoveries for sample 06 above QC limits; all non-spiked sample results ND; no qualification indicated. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – not performed/required on any sample in data set. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For samples 01-03, 06-08, 10, 11, and 17, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For samples 04, 05, and 12 all results reported from diluted runs (20x, 50x, 20x, and 20x), with RLs raised. RLs for all ND results below PALs (maximum of 3.1 mg/kg for PCBs in sample 05). |

Data Validation Performed and Documented by:

Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering ServicesTable 1
Summary of Qualified Data
ESS Laboratory Report 1809025

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|------------------|----------|--------------|-----------------|-------|------------------------------|-------------|
| B-145-090418 7FT | PCBs | Aroclor 1242 | 0.9 | mg/kg | 0.9 J | SA |
| | | Aroclor 1254 | 29.0 | mg/kg | 29.0 J | SA |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809026**; Report Issued **October 24, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-----------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| SW-130-090418 2-6FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-131-090418 2-6FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-132-090418 2-6FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-133-090418 2-6FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-134-090418 3-7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-135-090418 3-7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-136-090418 3-7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-137-090418 3-7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-138-090418 2-6FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-139-090418 2-6FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-140-090418 2-6FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-140-1-090418 2-6FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-141-090418 2-6FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-522-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-14 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-523-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-15 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-524-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-16 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-526-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-17 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-527-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-18 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-528-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809026-19 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|-----------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries – Surrogates for samples 01-04,07, 15, 16, and 19 (secondary analytical runs only) and samples 05 and 06 (primary runs) diluted below MRL. (No qualification indicated). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) – MS/MSD Aroclor 1260 primary column recoveries above QC limit. Aroclor 1260 non-spiked sample result ND; no qualification indicated. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) - RPD exceeded QC limit (40%) for sample 09 Aroclor 1260 result and for sample 17 Aroclor 1242 result; results for sample 09 Aroclor 1260 and sample 17 Aroclor 1242 are considered estimates (J qualified). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – not performed/required on any sample in data set. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For samples 01-04,07-09, and 14-19, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For samples 04 and 05, all results reported from diluted runs (50x), with RLs raised. RLs for all ND results below PALs (maximum of 3.0 mg/kg for PCBs in sample 05). |

Data Validation Performed and Documented by:

Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering ServicesTable 1
Summary of Qualified Data
ESS Laboratory Report 1809026

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|---------------------|----------|--------------|-----------------|-------|------------------------------|-------------|
| SW-138-090418 2-6FT | PCBs | Aroclor 1260 | 3.2 | mg/kg | 3.2 J | DC |
| B-526-090418 7FT | PCBs | Aroclor 1242 | 0.1 | mg/kg | 0.1 J | DC |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809027**; Report Issued **October 24, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|--------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-529-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809027-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-531-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809027-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-532-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809027-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-533-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809027-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-533-1-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809027-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-536-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809027-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-537-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809027-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-534-090418 7FT | 9/4/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809027-08 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Surrogate recoveries – Surrogates for samples 06-08 (secondary analytical runs only) diluted below MRL. (No qualification indicated). DCB surrogate recovery for undiluted analytical run, primary column above QC limit for sample 07. As only detected concentration for undiluted run taken from confirmation column; no qualification necessary. DCB surrogate recoveries for diluted sample runs, primary columns above QC limit for samples 03 and 05; detected concentrations of Aroclor 1254 in samples 03 and 05 (both from diluted runs) are considered estimates (qualified with J). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) – MS/MSD recoveries for Aroclor 1260 below QC limit; however, as native concentration greater than 4x spike, results are not considered usable as QC data; no qualification indicated. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Field duplicate RPDs (if collected) – Samples 04/05 Aroclor 1260 results are considered estimates (qualified with J/UJ) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) - RPD exceeded QC limit (40%) for sample 02 Aroclor 1242 result; result for sample 02 Aroclor 1242 is considered an estimate (J qualified). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – not performed/required on any sample in data set. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For samples 01-08, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. RLs for all ND results below Project Action Levels (PAL). |

Data Validation Performed and Documented by:


Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1809027

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|--------------------|----------|--------------|-----------------|-------|------------------------------|-------------|
| B-531-090418 7FT | PCBs | Aroclor 1242 | 0.6 | mg/kg | 0.6 J | DC |
| B-532-090418 7FT | PCBs | Aroclor 1254 | 3.6 | mg/kg | 3.6 J | SA |
| B-533-090418 7FT | PCBs | Aroclor 1260 | 2.6 | mg/kg | 2.6 J | DU |
| B-533-1-090418 7FT | PCBs | Aroclor 1254 | 5.4 | mg/kg | 5.4 J | SA |
| | | Aroclor 1260 | 0.6 U | mg/kg | 0.6 UJ | DU |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809067**; Report Issued **November 20, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-----------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-551-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-552-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-553-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-553-090518-1 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-330-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-332-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-334-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-336-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-338-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-338-090518-1 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-339-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-340-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-341-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-342-090518 0-3ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-14 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-343-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-15 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-345-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-16 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-347-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-17 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-349-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809067-18 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|-----------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries – Surrogates for samples 05-06, and 10 (primary runs) diluted below MRL. (No qualification indicated). DCB surrogate recovery for sample 04 above QC limit for diluted run, confirmation column; as diluted run result taken from primary column, no qualification indicated. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) – MS/MSD recoveries above QC limit for sample 03 and 09, caused by co-elution (elevated result for Aroclor 1254 in unspiked samples). Given the potential for positive bias, and no other detects in sample 03, no qualification is indicated. Sample 09 Aroclor 1242 detected result is considered an estimate (J qualified). |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Field duplicate RPDs (if collected) – Samples 03/04 Aroclor 1242 results are considered estimates (qualified with UJ/J). Samples 09/10 Aroclor 1242 and 1254 results are considered estimates (qualified with J/UJ and J, respectively). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) - RPD exceeded QC limit (40%) for the following results: sample 04 Aroclor 1242; sample 08 Aroclor 1242, sample 11 Aroclor 1242, and sample 14 Aroclor 1242. The Aroclor 1242 results for samples 04, 08, 11, and 14 are considered estimates (J qualified). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – not performed/required on any sample in data set. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For samples 01-04, 08, 09, 11, and 14, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For samples 05-07, and 10, all results reported from diluted runs (20x), with RLs raised. RLs for all ND results below PALs (maximum of 1.2 mg/kg for PCBs in sample 05). |

Data Validation Performed and Documented by:

Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1809067

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|-----------------------|----------|--------------|-----------------|-------|------------------------------|-------------|
| B-553-090518 7ft | PCBs | Aroclor 1242 | 0.06 U | mg/kg | 0.06 UJ | DU |
| B-553-090518-1 7ft | PCBs | Aroclor 1242 | 0.2 | mg/kg | 0.2 J | DU, DC |
| SW-336-090518 3-7ft | PCBs | Aroclor 1242 | 0.1 | mg/kg | 0.1 J | DC |
| SW-338-090518 3-7ft | PCBs | Aroclor 1242 | 0.3 | mg/kg | 0.3 J | DU, AM |
| | | Aroclor 1254 | 6.0 | mg/kg | 6.0 J | DU |
| SW-338-090518-1 3-7ft | PCBs | Aroclor 1242 | 1.1 U | mg/kg | 1.1 UJ | DU |
| | | Aroclor 1254 | 10.8 | mg/kg | 10.8 J | DU |
| SW-339-090518 3-7ft | PCBs | Aroclor 1242 | 0.3 | mg/kg | 0.3 J | DC |
| SW-342-090518 0-3ft | PCBs | Aroclor 1242 | 0.4 | mg/kg | 0.4 J | DC |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809068**; Report Issued **November 12, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-----------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| SW-350-090518 0-3ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-351-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-353-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-355-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-356-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-357-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-359-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-361-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-362-090518 0-3ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-363-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-365-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-686-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-686-090518-1 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-688-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-14 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-689-090518 3-7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-15 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-434-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-16 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-434-090518-1 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-17 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-438-090518 7FT | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809068-18 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|-----------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Surrogate recoveries – Surrogates for samples 03-09, and 12 (primary runs) diluted below MRL. (No qualification indicated). DCB surrogate recovery for sample 13 above QC limit for diluted run, confirmation column; as Aroclor 1254 result was taken from diluted run confirmation column, Aroclor 1254 result for sample 13 is considered an estimate (J qualified). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) – MS/MSD recoveries above QC limit for sample 12, caused by co-elution (elevated result for Aroclor 1254 in unspiked samples). Given the potential for positive bias, and no other detects in sample 12, no qualification is indicated. Sample 16 MS and MSD recoveries were within limits, but RPDs exceeded QC limit, indicating a potential precision issue. Detected result for Aroclor 1254 in sample 16 is considered an estimate (J qualified). |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Field duplicate RPDs (if collected) – Samples 12/13 Aroclor 1254 results are considered estimates (qualified with J). Samples 16/17 Aroclor 1254 results are considered estimates (qualified with J). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) - RPD exceeded QC limit (40%) for sample 16 Aroclor 1254 result; result for sample 16 Aroclor 1254 is considered an estimate (J qualified). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – not performed/required on any sample in data set. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For samples 01, 10, 11, 13-15, and 18, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For samples 03-09, and 12, all results reported from diluted runs (50, 20, 100, 200, 50, 20, 20, and 20x), with RLs raised. RLs for all ND results below PALs (maximum of 12.2 mg/kg for PCBs in sample 06; PAL = 25 mg/kg). |

Data Validation Performed and Documented by:

Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1809068

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|-----------------------|----------|--------------|-----------------|-------|------------------------------|-------------|
| SW-686-090518 3-7ft | PCBs | Aroclor 1254 | 10.7 | mg/kg | 10.7 J | DU |
| SW-686-090518-1 3-7ft | PCBs | Aroclor 1254 | 5.9 | mg/kg | 5.9 J | SA, DU |
| B-434-090518 7ft | PCBs | Aroclor 1254 | 0.1 | mg/kg | 0.1 J | MR, DC, DU |
| B-434-090518-1 7ft | PCBs | Aroclor 1254 | 0.2 | mg/kg | 0.2 J | DU |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809069**; Report Issued **November 12, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|------------------|----------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-442-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809069-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-446-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809069-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-435-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809069-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-439-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809069-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-443-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809069-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-447-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809069-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-436-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809069-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-440-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809069-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-444-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809069-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-448-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809069-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-437-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809069-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-441-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809069-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-445-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809069-13 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Surrogate recoveries – Surrogates for samples 01 and 04 (primary runs) diluted below MRL. (No qualification indicated). DCB surrogate recoveries (both columns) for sample 05 above QC limit; Aroclor 1254 detected result for sample 05 is considered an estimate (J qualified). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – <i>not performed/required on any sample in data set.</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – <i>For samples 08-10, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For samples 01 and 04, all results were reported from diluted runs (50 and 100x), with RLs raised. RLs for all ND results below PALs (maximum of 6.0 mg/kg for PCBs in sample 06; PAL = 25 mg/kg).</i> |

Data Validation Performed and Documented by:


Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1809069

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|------------------|----------|--------------|-----------------|-------|------------------------------|-------------|
| B-443-090518 7ft | PCBs | Aroclor 1254 | 0.8 | mg/kg | 0.8 J | SA |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809070**; Report Issued **November 20, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|------------------|----------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-538-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809070-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-539-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809070-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-541-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809070-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-542-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809070-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-543-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809070-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-544-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809070-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-546-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809070-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-547-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809070-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-548-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809070-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-549-090518 7ft | 9/5/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809070-10 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries – Surrogates for sample 07 (primary run) diluted below MRL. (No qualification indicated). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – <i>not performed/required on any sample in data set.</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – <i>For samples 04, 06, 08, and 09m only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For sample 07, all results were reported from a diluted run (20x), with RLs raised. RLs for all ND results below PALs (maximum of 1.2 mg/kg for PCBs in sample 06; PAL = 25 mg/kg).</i> |

Data Validation Performed and Documented by:


Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1809070

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|--------|----------|------------------------|-----------------|-------|------------------------------|-------------|
| None | None | No data qualifications | | | | |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809134**; Report Issued **November 12, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|---------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-790-090618 3ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-545-090618 0-3ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-550-090618 0-3ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-81-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-82-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-83-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-84-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-85-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-86-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-87-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-88-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-89-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-90-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-91-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-14 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-92-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-15 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-93-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-16 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-94-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-17 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-95-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-18 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-96-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-19 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-96-1-090618 6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809134-20 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness - Lab transcription error; missing a dash after SW in sample 03. |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries – Surrogates for samples 07, 10, 11, and 15 (primary runs) diluted below MRL. (No qualification indicated). DCB surrogate diluted below detectable level in diluted run, primary column only, for sample 13. As surrogate recoveries within acceptable levels for undiluted run, and for diluted run confirmatory column, no qualification is indicated. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) – For sample 19, MS recoveries were within QC limit, but MSD recovery for Aroclor 1260, confirmatory column only, was below QC limit, with RPD for Aroclor 1260 above QC limit. Detected result for Aroclor 1254 in sample 19 and field duplicate sample 20 (both reported from confirmatory column) is considered an estimate (J qualified). (No other data for those samples were reported from the confirmatory columns.) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Field duplicate RPDs (if collected) – Samples 19/20 Aroclor 1242 and Aroclor 1254 results are considered estimates (qualified with J). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) - RPD exceeded QC limit (40%) for Aroclor 1260 results in samples 02, 05, 06, 09, 14, 18, 19, and 20; Aroclor 1260 results for these samples are considered estimates (J qualified). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – <i>not performed/required on any sample in data set.</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For samples 01, 05, 06, 09, 12-14, 16, 19, and 20, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For samples 07, 10, 11, and 15, all results reported from diluted runs (20, 20, 100, and 50x), with RLs raised. RLs for all ND results below PALs (maximum of 6.2 mg/kg for PCBs in sample 11; PAL = 25 mg/kg). |

Data Validation Performed and Documented by:

Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1809134

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|---------------------|----------|--------------|-----------------|-------|------------------------------|-------------|
| SW-545-090618 0-3ft | PCBs | Aroclor 1260 | 0.2 | mg/kg | 0.2 J | DC |
| B-82-090618 6ft | PCBs | Aroclor 1260 | 0.3 | mg/kg | 0.3 J | DC |
| B-83-090618 6ft | PCBs | Aroclor 1260 | 0.4 | mg/kg | 0.4 J | DC |
| B-86-090618 6ft | PCBs | Aroclor 1260 | 0.5 | mg/kg | 0.5 J | DC |
| B-91-090618 6ft | PCBs | Aroclor 1260 | 0.7 | mg/kg | 0.7 J | DC |
| B-95-090618 6ft | PCBs | Aroclor 1260 | 0.2 | mg/kg | 0.2 J | DC |
| B-96-090618 6ft | PCBs | Aroclor 1242 | 2.2 | mg/kg | 2.2 J | DU |
| | | Aroclor 1254 | 4.9 | mg/kg | 4.9 J | DU, BM, MR |
| | | Aroclor 1260 | 0.5 | mg/kg | 0.5 J | DC |
| B-96-1-090618 6ft | PCBs | Aroclor 1242 | 0.2 | mg/kg | 0.2 J | DU |
| | | Aroclor 1254 | 3.1 | mg/kg | 3.1 J | DU, BM, MR |
| | | Aroclor 1260 | 0.5 | mg/kg | 0.5 J | DC |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809135**; Report Issued **November 12, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|---------------------|----------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| SW-308-090618 5-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-310-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-312-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-314-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-316-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-317-090618 0-4ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-318-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-320-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-322-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-323-090618 0-4ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-324-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-85-090618 0-4ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-90-090618 4-6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-95-090618 1-5ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-14 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-80-090618 4-6ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809135-15 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries – Surrogates for samples 03, 06, 10, and 12 (primary runs) diluted below MRL. (No qualification indicated). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – <i>not performed/required on any sample in data set.</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – <i>For samples 01, 02, and 13, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For samples 03, 06, 10, and 12, all results reported from diluted runs (20, 50, 20 and 20x), with RLs raised. RLs for all ND results below PALs (maximum of 2.6 mg/kg for PCBs in sample 06; PAL = 25 mg/kg).</i> |

Data Validation Performed and Documented by:


Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1809135

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|--------|----------|------------------------|-----------------|-------|------------------------------|-------------|
| None | None | No data qualifications | | | | |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809136**; Report Issued **November 12, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-----------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| SW-294-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809136-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-296-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809136-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-298-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809136-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-298-090618-1 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809136-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-300-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809136-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-302-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809136-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-303-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809136-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-304-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809136-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-306-090618 4-7ft | 9/6/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809136-09 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – <i>not performed/required on any sample in data set.</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – <i>For sample 07, only reporting limit raised was for detected Aroclor. No impact on data sensitivity. RLs for all ND results below PALs.</i> |

Data Validation Performed and Documented by:


Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1809136

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|--------|----------|------------------------|-----------------|-------|------------------------------|-------------|
| None | None | No data qualifications | | | | |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809178**; Report Issued **October 27, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|---------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-620-090718 3ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-413-090718 0-3ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-418-090718 0-3ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-813-090718 6ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-807-090718 6ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-801-090718 6ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-797-090718 6ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-812-090718 6ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-806-090718 6ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-800-090718 6ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-811-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-811-090718-1 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-805-090718 6ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-799-090718 6ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-14 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-795-090718 6ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-15 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-821-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-16 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-817-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-17 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-820-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-18 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-816-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809178-19 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) – Two LCS/LCSD sets analyzed (two batches), with all LCS and LCSD recoveries within QC limit; however, because the LCS recoveries were significantly lower than the LCSD recoveries, all the RPDs exceeded the RPD limit of 30%. Given that there is no USEPA National or New England guidance on LCS/LCSD RPDs (just recoveries), validator evaluated batch data quality based on the native sample MS/MSD performed on sample 19; as these results were within the acceptable RPD limit, no data qualification was made. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) – Sample 11 submitted for MS/MSD analysis, but spiked concentrations diluted below detectable range due to high dilution factor required for native sample analysis (5,000x DF); laboratory did not report results within batch QC. No qualification to data. Sample 19 submitted for MS/MSD analysis. Aroclor 1016 recoveries (both columns) above QC limit (potential positive bias); however, as no concentrations were detected in native sample, no qualification to data is applicable. RPDs were below maximum QC limit. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) - Case narrative notes C810224-CCV1 and CCV3 %D for DCB surrogate below control limit; however, these samples from this work order did not start until after CCV5, and therefore all of this package samples analyzed between acceptable calibrations. No qualification indicated. |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – Sulfur removal by copper cleanup (CC) method performed on samples 06, 09, 10, 13, 16, 19. Method blank and LCS/LCS CC analyzed in batch with these samples. Results acceptable. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For samples 03, 04, 05, 07, 15, 16, and 19, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For samples 08, 11, 12, 17, and 18, all results reported from diluted runs (500, 5,000, 5,000, 50, and 500x), with RLs raised. RLs for all ND results for sample 17 were below PALs (RL 4.7 mg/kg for PCBs in sample 17; PAL = 25 mg/kg). RLs for sample 08 (30.8 mg/kg), sample 11 (304 mg/kg), sample 12 (318 mg/kg), and sample 18 (33.1 mg/kg) were above the PAL, and therefore there was an impact on data sensitivity. However, given that the elevated concentrations in these samples required additional excavation, and as a result new confirmatory samples were collected, this does not indicate an impact on final confirmatory sample data sensitivity. |

Data Validation Performed and Documented by:


Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1809178

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|--------|----------|------------------------|-----------------|-------|------------------------------|-------------|
| None | None | No data qualifications | | | | |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809179**; Report Issued **November 13, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|---------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-816-1-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-810-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-804-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-798-090718 6ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-819-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-815-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-809-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-803-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-818-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-814-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-808-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-802-090718 5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-794-090718 6ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-610-090718 3ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-14 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-398-090718 0-3ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-15 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-403-090718 0-3ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-16 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-796-090718 6ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-17 | <input checked="" type="checkbox"/> PCB (8082A) |
| 33B 1-2ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-18 | <input checked="" type="checkbox"/> PCB (8082A) |
| 33B 2-2.5ft | 9/7/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809179-19 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries - Surrogates for samples 02, 04-11, and 13 (primary runs) diluted below MRL. (No qualification indicated). For sample 03, undiluted run, TMX surrogate recovery for primary column above QC limit. As the only detected concentration for sample was reported from the diluted analytical run (with acceptable surrogate recoveries), no qualification is indicated. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) – Sample 01 is field duplicate of sample 1809178-19 (evaluated in that package). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) - RPD exceeded QC limit (40%) for sample 05 Aroclor 1248; the Aroclor 1248 result for sample 05 is considered an estimate (J qualified). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – Sulfur removal by copper cleanup (CC) method performed on samples 01 and 17 (twice). Method blank and LCS/LCS analyzed in batch with these samples. Results acceptable. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For samples 01, 03, 12, 14, and 16, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For samples 02, 04-11, and 13, all results reported from diluted runs (100, 500, 20, 500, 5,000, 500, 20, 20, 20, and 20x), with RLs raised. RLs for all ND results for samples 02, 05, 09-11, and 13 were below PALs (maximum RL 1.8 mg/kg for PCBs in samples 05 and 13; PAL = 25 mg/kg). RLs for sample 04 (29.2 mg/kg), sample 06 (35.7 mg/kg), sample 07 (2,250 mg/kg), and sample 08 (34.3 mg/kg) were above the PAL, and therefore there was an impact on data sensitivity. However, given that the elevated concentrations in these samples required additional excavation, and as a result new confirmatory samples were collected, this does not indicate an impact on final confirmatory sample data sensitivity. |

Data Validation Performed and Documented by:



Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1809179

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|------------------|----------|--------------|-----------------|-------|------------------------------|-------------|
| B-802-090718 5ft | PCBs | Aroclor 1248 | 3.2 | mg/kg | 3.2 J | DC |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809213**; Report Issued **November 13, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-----------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| SW-564-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-565-091018 5-6ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-567-091018 5-6ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-566-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-569-091018 5-6ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-568-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-573-091018 5-6ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-572-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-571-091018 5-6ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-570-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-575-091018 5-6ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-574-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-577-091018 5-6ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-576-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-14 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-579-091018 5-6ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-15 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-578-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-16 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-580-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-17 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-867-091018-A 2ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-18 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-691-091018-A 0-2ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-19 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-547-091018-A 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809213-20 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries - Surrogates for samples 02, 05, 16, and 19 (primary runs) diluted below MRL. (No qualification indicated). For sample 09, undiluted run, TMX surrogate recovery for primary column above QC limit. As the only detected concentration for sample was reported from the diluted analytical run (with acceptable surrogate recoveries), no qualification is indicated. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) – Although not specifically requested, the laboratory ran an MS/MSD analysis on sample 20; recoveries for Aroclor 1016 MS and MSD, primary column only, were above QC limit. However, as this indicates a positive bias and the native result was non-detect, no qualification is indicated. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) - RPD exceeded QC limit (40%) for sample 09 Aroclor 1254; the Aroclor 1254 result for sample 09 is considered an estimate (J qualified). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – not performed/required on any sample in data set. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For samples 12, 17, and 18, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For samples 02, 05, 16, and 19, all results reported from diluted runs (200, 20, 50 and 50x), with RLs raised. RLs for all ND results for samples 02, 05, 16, and 19 were below PALs (maximum RL 10.8 mg/kg for PCBs in sample 02; PAL = 25 mg/kg). |

Data Validation Performed and Documented by:



Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1809213

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|---------------------|----------|--------------|-----------------|-------|------------------------------|-------------|
| SW-571-091018 5-6ft | PCBs | Aroclor 1254 | 0.3 | mg/kg | 0.3 J | DC |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809214**; Report Issued **October 27, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-----------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| SW-585-091018 5-6ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-584-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-684-091018 5-6ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-683-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-683-091018-1 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-552-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-553-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-554-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-555-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-583-091018 5-6ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-582-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-556-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-558-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-559-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-14 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-557-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-15 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-560-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-16 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-561-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-17 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-562-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-18 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-563-091018 0-4ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809214-19 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Surrogate recoveries - Surrogates for samples 04-12, and 15-17 (primary runs) diluted below MRL. (No qualification indicated). For sample 18, TMX surrogate recovery for primary column above QC limit. Aroclor 1248 detected concentration for sample 18 is considered an estimate (J qualified). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) – Sample 04 was submitted for MS/MSD analysis; however, the laboratory did not report this analysis due to high concentration of target analytes in sample (high native concentration results in necessity for high dilution, precluding usable MS/MSD results.) No qualification indicated. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – not performed/required on any sample in data set. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For samples 04-12 and 15-17, all results reported from diluted runs (ranging from 20x to 500x), with RLs raised. RLs for all ND results for samples 04, 05, 07-12, and 15-17 were below PALs (maximum RL 10.8 mg/kg for PCBs in sample 02; PAL = 25 mg/kg). RLs for sample 06 were slightly above the PAL, at 26.6 mg/kg, impacting data sensitivity. However, given that the elevated concentration in this sample required additional excavation, and as a result new confirmatory samples were collected, this does not indicate an impact on final confirmatory sample data sensitivity. |

Data Validation Performed and Documented by:



Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1809214

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|---------------------|----------|--------------|-----------------|-------|------------------------------|-------------|
| SW-562-091018 0-4ft | PCBs | Aroclor 1248 | 0.5 | mg/kg | 0.5 J | SA |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809215**; Report Issued **November 13, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-------------|----------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| W-14A 0-2ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809215-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| W-17A 0-2ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809215-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| W-17B 0-2ft | 9/10/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809215-03 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries - Surrogates for sample 01 (primary run) diluted below MRL. (No qualification indicated). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – not performed/required on any sample in data set. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For sample 03, only reporting limit raised was for a detected Aroclor. No impact on data sensitivity. For sample 01, all results were reported from diluted run (20x), with RLs raised. RLs for all ND results below PALs (maximum of 1.1 mg/kg for PCBs in sample 01; PAL = 25 mg/kg). |

Data Validation Performed and Documented by:

Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1809215

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|--------|----------|------------------------|-----------------|-------|------------------------------|-------------|
| None | None | No data qualifications | | | | |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809249**; Report Issued **November 13, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-----------------------|----------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-462-091118-A 3ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-463-091118-A 3ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-464-091118-A 3ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-472-091118-A 3ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-478-091118-A 3ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-479-091118-A 3ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-641-091118-A 0-2ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-642-091118-A 0-2ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-644-091118-A 0-2ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-457-091118-A 3ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-664-091118-A 0-3ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-390-091118-A 0-3ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-665-091118-A 0-3ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-389-091118-A 0-3ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-14 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-473-091118-A 3ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-15 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-669-091118-A 0-3ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809249-16 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|-----------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Surrogate recoveries - Surrogates for samples 08, 09, 12, 13, 14, and 16 (primary runs) diluted below MRL. (No qualification indicated). For sample 02, diluted run, TMX surrogate recovery for confirmation column above QC limit. As sample 02 Aroclor 1254 result was taken from diluted run confirmation column, this result is considered an estimate (J qualified.) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – not performed/required on any sample in data set. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – For samples 01, 02, 07, and 11, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For samples 08, 09, 12, 13, 14, and 16, all results reported from diluted runs (20, 20, 20, 20, 50, and 20x), with RLs raised. RLs for all ND results for samples 09, 12, 13, 14, and 16 were below PALs (maximum RL 2.9 mg/kg for PCBs in sample 14; PAL = 25 mg/kg). |

Data Validation Performed and Documented by:

Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering ServicesTable 1
Summary of Qualified Data
ESS Laboratory Report 1809249

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|--------------------|----------|--------------|-----------------|-------|------------------------------|-------------|
| B-463-091118-A 3ft | PCBs | Aroclor 1254 | 3.7 | mg/kg | 3.7 J | SA |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809250**; Report Issued **November 13, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-----------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-748-091118-A 5ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-749-091118-A 5ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-750-091118-A 5ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-751-091118-A 5ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-753-091118-A 5ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-755-091118-A 5ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-758-091118-A 5ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-762-091118-A 5ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-763-091118-A 5ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-504-091118-A 0-4ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-506-091118-A 0-4ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-507-091118-A 0-4ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-508-091118-A 0-4ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-851-091118-A 4ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-14 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-858-091118-A 4ft | 9/11/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809250-15 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries - Surrogates for sample 10 (primary runs) diluted below MRL. (No qualification indicated). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) - <i>Although not specifically requested, the laboratory ran an MS/MSD analysis on sample 13; recoveries and RPDs within QC limits.</i> |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – <i>not performed/required on any sample in data set.</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – <i>For samples 06, and 11-13, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For sample 10, all results reported from diluted run (20x), with RLs raised. RLs for all ND results for sample 10 were below PAL (RL 1.2 mg/kg for PCBs in sample 10; PAL = 25 mg/kg).</i> |

Data Validation Performed and Documented by:

Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering ServicesTable 1
Summary of Qualified Data
ESS Laboratory Report 1809250

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|--------|----------|------------------------|-----------------|-------|------------------------------|-------------|
| None | None | No data qualifications | | | | |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809282**; Report Issued **November 14, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-----------------------|----------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-559-091218-A 4ft | 9/12/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809282-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-631-091218-A 4ft | 9/12/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809282-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-629-091218-A 4ft | 9/12/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809282-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-621-091218-A 4ft | 9/12/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809282-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-622-091218-A 4ft | 9/12/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809282-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-430-091218-A 0-4ft | 9/12/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809282-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-380-091218-A 0-3ft | 9/12/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809282-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-377-091218-A 0-3ft | 9/12/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809282-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-357-091218-A 3-7ft | 9/12/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809282-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-358-091218-A 0-3ft | 9/12/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809282-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-359-091218-A 3-7ft | 9/12/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809282-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-360-091218-A 0-3ft | 9/12/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809282-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-535-091218-A 8ft | 9/12/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809282-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-523-091218-A 8ft | 9/12/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809282-14 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries - Surrogates for samples 01-03 and 13 and 14 (primary runs) diluted below MRL. (No qualification indicated). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – <i>not performed/required on any sample in data set.</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – <i>For samples 06, and 11-13, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For samples 01-03 and 13 and 14, all results reported from diluted runs (100, 50, 50, 50, and 20x), with RLs raised. RLs for all ND results for samples 01-03 and 13 and 14 were below PAL (maximum RL 6.0 mg/kg for PCBs in sample 01; PAL = 25 mg/kg).</i> |

Data Validation Performed and Documented by:

Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering ServicesTable 1
Summary of Qualified Data
ESS Laboratory Report 1809282

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|--------|----------|------------------------|-----------------|-------|------------------------------|-------------|
| None | None | No data qualifications | | | | |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809330**; Report Issued **November 14, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-----------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-442-091318-A 8ft | 9/13/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809330-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-439-091318-A 8ft | 9/13/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809330-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-181-091318-A 3ft | 9/13/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809330-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-181-091318-A-1 3ft | 9/13/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809330-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-98-091318-A 0-2ft | 9/13/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809330-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-100-091318-A 0-2ft | 9/13/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809330-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-692-091318-A 0-2ft | 9/13/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809330-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-602-091318-A 0-4ft | 9/13/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809330-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-400-091318-A 0-3ft | 9/13/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809330-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-401-091318-A 0-3ft | 9/13/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809330-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-387-091318-A 0-3ft | 9/13/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809330-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-429-091318-A 0-4ft | 9/13/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809330-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-88-091318-A 7ft | 9/13/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809330-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-92-091318-A 7ft | 9/13/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809330-14 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries - Surrogates for samples 05-09, 13, and 14 (primary runs) diluted below MRL. (No qualification indicated). |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – <i>not performed/required on any sample in data set.</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – <i>For sample 11, only reporting limit raised was for a detected Aroclor. No impact on data sensitivity. For samples 05-09, and 13 and 14, all results reported from diluted runs (ranging from 20x to 50x), with RLs raised. RLs for all ND results for samples 05-09, and 13 and 14 were below PALs (maximum RL 3.4 mg/kg for PCBs in sample 13; PAL = 25 mg/kg).</i> |

Data Validation Performed and Documented by:


Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering Services

Table 1
Summary of Qualified Data
ESS Laboratory Report 1809330

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|--------|----------|------------------------|-----------------|-------|------------------------------|-------------|
| None | None | No data qualifications | | | | |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809409**; Report Issued **November 14, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-----------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| SW-602-091718 0-3FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-01 | Placed on hold/cancelled |
| SW-692-091718 0-2FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-02 | Placed on hold/cancelled |
| B-634-091718 3FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-441-091718 0-3FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-618-091718 3FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-618-091718-1 3FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-414-091718 0-3FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-415-091718 0-3FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-416-091718 0-3FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-417-091718 0-3FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-419-091718 0-3FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-420-091718 0-3FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-619-091718 3FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-529-091718-A 0-3FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-14 | <input checked="" type="checkbox"/> PCB (8082A) |
| W-14a 0-1FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-15 | <input checked="" type="checkbox"/> PCB (8082A) |
| W-14a 1-2FT | 9/17/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809409-16 | <input checked="" type="checkbox"/> PCB (8082A) |

Sample data not reported in data package, per instructions from Project Manager.

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries - Surrogates for samples 03, 14, and 15 (primary runs) diluted below MRL. (No qualification indicated). |

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|-------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries and relative percent differences (RPDs) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Batch matrix spike/matrix spike duplicate (MS/MSD) recoveries and RPDs (if performed on project-specific sample) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Laboratory duplicate RPDs (if performed) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Field duplicate RPDs (if collected) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Dual Column RPDs (pesticide and PCB aroclors only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Method blank results |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Field/equipment blank results (if collected) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trip blank results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable initial calibration performed on instrument (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Acceptable continuing calibration performed on instrument, and analytical sequence (evaluated for extreme QC failures) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur Removal (pesticide and PCB aroclors only) – <i>not performed/required on any sample in data set.</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Percent solids |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Mass spectrometer tuning (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Internal standard performance (GC/MS only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Interference check sample results (metals only) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ICP serial dilution results (metals only) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Reporting limits and sample results (limited to evaluating dilutions and reanalysis) – <i>For samples 04, 08-10, 13, and 16, only reporting limits raised were for detected Aroclors. No impact on data sensitivity. For samples 03, 14, and 15, all results reported from diluted runs (20x), with RLs raised. RLs for all ND results for samples 03, 14, and 15 were below PALs (maximum RL 1.2 mg/kg for PCBs in sample 14; PAL = 25 mg/kg).</i> |

Data Validation Performed and Documented by:



Veronica J. Champagne, Data Validator
AEI Consultants Environmental & Engineering ServicesTable 1
Summary of Qualified Data
ESS Laboratory Report 1809409

| Sample | Analysis | Compound | Original Result | Units | Data Validation-Based Result | Reason Code |
|--------|----------|------------------------|-----------------|-------|------------------------------|-------------|
| None | None | No data qualifications | | | | |

mg/kg = milligrams per kilogram or parts per million (ppm)

Bold indicates detected final concentration

Reason codes are defined within Table 2.

Table 2
Qualifier and Reason Code Definitions

| Qualifier Codes | Definition |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| J | Estimated detected result |
| UJ | Estimated reporting limit (non-detected result) |
| U | Non-detected result |
| R | Unusable result |
| Reason Codes | Definition |
| AM | MS or MSD recovery above QC limits |
| BM | MS or MSD recovery below QC limits (If associated with R qualifier, recovery was below 10%) |
| CCV | QC issue identified with Continuing Calibration Verification |
| CS | LCS or LCSD recovery or RPD outside QC limits |
| DC | Dual column RPD above QC limit. |
| DU | Field or laboratory duplicate results outside QC limits |
| EB | Equipment blank contamination |
| HT | Sample analyzed past holding time |
| ICC | QC issue identified with Initial Calibration |
| ICV | QC issue identified with Initial Calibration Verification |
| MB | Method blank contamination |
| MR | MS/MSD RPD above QC limit |
| OC | Concentration over instrument calibration range. Sample re-run at further dilution, with result within calibration range reported from secondary run. |
| PR | Preservation Issue |
| RL | Detected concentration above MDL but below Reporting Limit (as reported by laboratory) |
| SA | Surrogate recovery above QC limit |
| SB | Surrogate recovery below QC limit |
| TB | Trip blank contamination |

ESS Laboratory – Laboratory Work Order Number **1809440**; Report Issued **November 14, 2018**

Summary of Samples Submitted to Laboratory:

| Sample ID | Date Collected | Media | QC Sample | Lab Sample ID | Analyses |
|-----------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| B-638-091818 1FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-01 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-695-091818 0-3FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-02 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-700-091818 0-3FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-03 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-450-091818 1FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-04 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-451-091818 1FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-05 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-452-091818 1FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-06 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-453-091818 1FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-07 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-693-091818 0-3FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input checked="" type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-08 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-694-091818 0-3FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-09 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-696-091818 0-3FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-10 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-697-091818 0-3FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-11 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-698-091818 0-3FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-12 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-693-091818-1 0-3FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-13 | <input checked="" type="checkbox"/> PCB (8082A) |
| SW-699-091818 0-3FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-14 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-903-091818 3FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-15 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-905-091818 3FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-16 | <input checked="" type="checkbox"/> PCB (8082A) |
| B-789-091818-A 2FT | 9/18/2018 | <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Concrete | <input type="checkbox"/> FD <input type="checkbox"/> MS/MSD <input type="checkbox"/> EB <input type="checkbox"/> TB | 1809440-17 | <input checked="" type="checkbox"/> PCB (8082A) |

Analytical data were evaluated for the following criteria:

| Evaluated | Eval Not Required | Data Qualified | Evaluation Criteria |
|-------------------------------------|--------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data completeness |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Holding times/Sample preservation |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Surrogate recoveries - Surrogates for samples 02, 03, and 05-14 (primary runs) diluted below MRL. (No qualification indicated). |